CLOSURE ASSESSMENT GUIDELINE FOR TENNESSEE HAZARDOUS SUBSTANCE UNDERGROUND STORAGE TANKS

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
UNDERGROUND STORAGE TANK PROGRAM
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-3104

CLOSURE ASSESSMENT GUIDELINE
for
HAZARDOUS SUBSTANCE UNDERGROUND STORAGE TANKS

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CLOSURE ASSESSMENT GUIDELINE
for
HAZARDOUS SUBSTANCE UNDERGROUND STORAGE TANKS
IN
TENNESSEE

INTRODUCTION/PURPOSE

Any Underground Storage Tank (UST) that was in use on or after December 22, 1988, must be permanently closed if taken out of use for more than a 12-month period and does not meet standards for new UST systems or the upgrade requirement for existing systems. All existing UST systems in us must meet the requirements of new USTs concerning correct installation, leak detection, and spill, overfill, and corrosion protection [http://www.epa.gov/swerust1/fedlaws/cfr.htm].

An owner of a Hazardous Substance Underground Storage Tank (UST) preparing to permanently close or conducting a change-in-service of the UST system in the State of Tennessee should seek guidance for appropriate closure or change-in-service procedures by referring to the Code of Federal Regulations, 40 C.F.R. §280.71 - 280.74 *[http://www.epa.gov/swerust1/fedlaws/cfr.htm]*. The regulations and additional Environmental Protection Agency (EPA) guidance on UST closure or change-in-service may be obtained by calling the Agency's toll-free RCRA/Superfund Hotline at (800) 424-9346. In addition, detailed UST closure or change-in-service procedures guidance for ***petroleum*** USTs is available through the Division of Underground Storage Tanks of the Tennessee Department of Environment and Conservation, Fourth Floor, L&C Tower, 401 Church Street, Nashville, TN 37243-1541.

There are some differences in closure or change-in-service procedures for petroleum and hazardous substance USTs. Therefore, the purpose of this document is to provide a comprehensive guidance for proper *permanent closure or a change-in-service* of a hazardous substance UST in Tennessee.

The UST regulations require that when a UST is permanently closed, the site must be sampled for the presence of a release where contamination is most likely to be present (40 C.F.R. §280.71 - 280.74). USTs may be permanently closed by removing them from the ground or by filling the cleaned empty tanks with an inert solid material, such as gravel, sand, foam, or concrete. Water is not an inert solid material and cannot be used for in-place closure. The Environmental Protection Agency recommends removal of the UST system. However, there are some situations where a structure, such as the foundation of a building, would be jeopardized by the UST removal and under this situation then closure-in-place would be appropriate.

The purpose of a UST closure site assessment is to determine whether or not a release has occurred at the UST site. Soil and ground water samples will be taken to help determine if a release has occurred. In selecting sample types, sample locations, and measurement methods; the method of closure, the nature of the stored substance, the type of backfill, the depth to ground water, and other factors appropriate for identifying the presence of a release should be considered. A closure site assessment will not determine the total extent of soil and ground water contamination. After the closure site

assessment is complete, the owner may proceed with the UST closure or change-in-service. If the site assessment indicates that a release has occurred, the owner must notify EPA, and begin corrective action in accordance with 40 C.F.R. Subpart F. The protection of human health and the environment should always be a primary objective in any UST closure site assessment. However, a streamlined and cost-effective approach to site assessment and any subsequent corrective action will ensure future allocation of limited resources. If a release is detected it is usually a good idea and economically favorable to continue the site characterization while the closure assessment equipment is mobilized. This should be done to define the extent of the contamination and determine if any environmental of ecological risk is presented by the contamination of the site (i.e., nearby drinking water receptors, sensitive eco systems, vapors in utilities or nearby subsurface structures, etc.).

The closure site assessment information should reflect site conditions. The sampling program used should consider whether closure is by removal or closure-in-place. These two UST closure methods are treated differently, since USTs that are removed from the ground enable the bottom of the excavation to be visually inspected. When the UST is removed, the visual inspections of the exterior o the USTs and the excavation are important components of the closure activity. Inspection of these areas may determine if a release has occurred. In addition, the above inspection aids the owner in designating sampling locations that make an initial determination concerning the presence of contamination.

The exterior of a UST undergoing a closure-in-place or change-in-service cannot be visually inspected. Consequently, the presence or size of a release cannot be determined and a more comprehensive assessment is required. ***Closure-in-place of a UST system is not recommended.*** USTs closed by leaving the USTs in the ground or undergoing a change-in-service require a more comprehensive assessment to demonstrate that a release has not occurred.

All closure notifications, site investigations, sample results, reports, and etc. are to be submitted to EPA-Region 4, Underground Storage Tank Section, Water Management Division, Ground Water Protection Branch, Sam Nunn Federal Center, 61 Forsyth Street, Atlanta, Georgia 30303, phone: 404-562-9466.

STATUTES REGULATING UNDERGROUND STORAGE TANKS

The Environmental Protection Agency (EPA) regulates underground storage tanks containing petroleun or hazardous substances by authority under Subtitle I of the Resource Conservation and Recovery Act (RCRA). Subtitle I was added to RCRA by the Hazardous and Solid Waste Amendments of 1984. Although Subtitle I establishes regulation of substances defined as "hazardous" under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), this does not include hazardous wastes as defined by Subtitle C of RCRA. However, RCRA Subtitle C regulations may apply to certain activities associated with closing a hazardous substance UST. The owner may therefore want to refer to the appropriate RCRA Subtitle C regulations before proceeding with a hazardous substance underground storage tank closure.

REPORTING REQUIREMENTS

Tank Registration

Any UST system that was in use on or after January 1, 1974, must be registered with the UST implementing agency. It is the UST Owner/Operator responsibility to insure that proper notification was provided to the implementing agency. USTs may be registered by submittal of a "Notification for Underground Storage Tanks" form which may be obtained by contacting the UST implementing agency. USTs located in Tennessee should contact the Division of Underground Storage Tanks of the Tennessee Department of Environment and Conservation, Fourth Floor, L&C Tower, 401 Church Street, Nashville, TN 37243-1541. A copy of the EPA's "Notification for Underground Storage Tanks" form [EPA Form 7530-1]can be found in Appendix C of this document or can be obtained from the EPA Region 4 UST Section or may be downloaded from the Internet at: *http://www.epa.gov/swerust1/fedlaws/cfr.htm*.

Local Notification

Before beginning work to permanently close the UST, the owner should verify if notification to the Fir Department/Marshal, or Utilities Protection Center is required. The Fire Department/Marshal and sometimes other governmental agencies may have jurisdiction over USTs and may require their oversight during removal. Contact the Utilities Protection Center at 1-800-282-7411 at least 72 hours before your start to dig.

Implementing Agency Notification

When a hazardous substance UST system is removed or permanently closed, *notification* of the owner's intent to permanently close or remove the hazardous substance UST system (Appendix A) shall be submitted *thirty days (30) days before initiating any closure activities* to the EPA-Region 4, Underground Storage Tank Section, Water Management Division, Ground Water Protection Branch, Sam Nunn Federal Center, 61 Forsyth Street, Atlanta, Georgia 30303. All correspondence related to the closure of the UST system must include the facility's I.D. number.

Requested Notification Information

A notification form for closure or change-in-service of a hazardous substance underground storage tank system is included as **Appendix A.** This form should be used by the owner/operator submitting notification of a hazardous substance UST system closure or a change-in-service to EPA.

NOTE: **Appendix A** indicates that soil and/or groundwater sampling and analyses shall be conducted for site assessment. The type of substance (product) currently or previously stored in the USTs will determine the appropriate contaminant analysis of soil and/or ground water. If the type of substance stored is unknown, it will be necessary to analyze for a suite of *suspected* contaminates.

CLOSURE SITE ASSESSMENT

It is recommended that owner/operators use registered engineers or geologists to perform site assessments.

Quality Assurance & Quality Control - Throughout all sample collections and analysis activities, EPA-approved quality assurance, quality control, and chain-of-custody procedures should be used. Failure to follow EPA-approved sampling procedures will cause the sampling results to be invalid.

- Field and sampling procedures should be conducted in accordance with EPA Region 4's Environmental Investigations Standard Operating Procedures and Quality Assurance Manual. This Manual is available for downloading from the Internet at: *http://www.epa.gov/region4/sesd/asbsop/asbsop.html* or by contacting EPA, Enforcement and Investigations Branch, Science and Ecosystem Support Division, 980 College Station Road, Athens, GA 30605-2720, or faxing a request to 706-355-8744.

- Laboratories should follow analytical procedures according to the latest version of EPA methods SW-846 (Test Methods for Evaluating Solid Waste, United States Environmental Agency, Office of Solid Waste and Emergency Response, SW-846, Third Edition, as revised) [*http://www.epa.gov/sw-846/main.htm*] or other methods deemed satisfactory to EPA. If methods other than EPA methods are to be used, the alternate analytical protocols should be submitted to EPA for review at least thirty (30) days prior to the commencement of analyses.

- Laboratories used for analyses should participate in a quality assurance/quality control program equivalent to that which is followed by EPA. As part of such a program, and upon request by EPA, such laboratories shall perform analysis of a reasonable number of known samples provided by EPA to demonstrate the quality of the analytical data.

Sampling UST System Contents

Prior to emptying the contents of the UST system for either permanent closure or a change-in-service, representative sample shall be taken from each tank bottom for analysis. At a minimum, the sample shall be analyzed for each constituent that has been stored in the UST system over its operational history. The stored substance's Material Safety Data Sheet (MSDS) should be examined to determined the trace compounds included in the substance stored. Analyses should include a broad scan to test for possible constituents stored in the UST system.

Soil and Ground Water Samples

Soil and ground water samples should be analyzed for each constituent that has been stored in the UST system over its operational history, including any constituent found by the broad scan. The appropriate analyses must be performed for any all substances the UST has contained or may have contained. Composite sampling is not acceptable since it does not conform with SW-846 Method 5035. Never use the same portion of a sample for both screening with field instruments (OVA or PID) and laboratory analysis. Exposing the sample to air and/or allowing the sample to increase in temperature t

obtain a representative OVA or PID measurement renders the sample unusable for laboratory analysis. If the sample is not put into an air tight container immediately after sampling and cooled to 4 degrees Celsius, it will provide inaccurate results and will be invalid.

On June 13, 1997, SW-846 was revised by Update III. Update III changed the soil collection and analysis procedures for volatile organic compound (VOCs). The updated procedures are EPA Methods 5030B and 5035. The revised methods require different sampling and analysis procedures for aqueous samples, soils, and other solid samples having high concentration of VOCs (greater than 200 ug/kg) versus low concentration of VOCs (0.5 to 200 ug/kg). Method 5035 utilizes a hermetically-sealed sample vial, the seal of which is never broken from the time of sampling to the tim of analysis. Since the sample is never exposed to the atmosphere after sampling, the losses of VOCs during sample transport, handling, and analysis are negligible. Refer to EPA Methods 5030B and 5035 for additional details on sampling collection procedures [*http://www.epa.gov/sw-846/main.htm*].

Analytical Methods

All analyses must be performed by a qualified/certified or EPA-APPROVED laboratory, using EPA-approved SW-846 methods (Test Methods for Evaluating Solid Waste, United States Environmental Agency, Office of Solid Waste and Emergency Response, SW-846, Third Edition, as revised) [*http://www.epa.gov/sw-846/main.htm*] or other methods deemed satisfactory to EPA. Approved EPA methods require the performance of certain sampling, analysis, and quality assurance and quality control procedures in the field and in the laboratory. Laboratories must meet the estimated quantitatio (detection) limits required by SW-846 or provide a brief written explanation for any elevated limits. If laboratory estimated quantitation limits cannot be achieved because the laboratory diluted the sample, and no concentrations of the target compounds of the target compounds are reported above the elevated detection limits, include a brief written explanation from the laboratory for the dilution. If the analytical method used was either EPA Laboratory Method 8260 or 8270 (GC/MS), include a tentative identification and estimated quantitation of any interfering constituent.

Appropriate analytical methods for the substance(s) or regulated constituent(s) that were stored in the UST(s) must be used. Analysis is to include all trace substances identified in the chemical manufactory's Material Safety Data Sheets (MSDS) or found during sampling of UST system contents describe above.

Soil Sample Locations

Sampling Tank Area

Areas selected for soil sampling should be strategically located in order to collect a representative fraction of the soils with the minimum number of samples. Soil samples should be taken from under th immediate periphery of the UST, as well as soil directly under product piping and dispensers. Soil samples should be taken from the undisturbed (native) soil. The total UST capacity should be taken into consideration when determining the number of samples to be collected. Soil samples collected

from underneath the tank(s) should be located in the areas where the fills, vent and/or product piping and manways were located.

UST System Being Removed

For UST systems being removed, please refer to the following Table 1 for the recommended number and location of samples appropriate for site assessment.

TABLE 1		
UST STORAGE CAPACITY (GAL) PER TANK PIT	**MINIMUM NUMBER OF SAMPLES TO SUBMIT TO LABORATORY**	**LOCATION**
950 OR LESS	*2*	SEE FIGURE 1
951 TO 7,500	*5*	SEE FIGURE 1
7,501 TO 25,000	*8*	SEE FIGURE 1
25,001 TO 30,000	*10*	SEE FIGURE 1
GREATER THAN 30,000	*APPROVED ON A SITE-SPECIFIC BASIS*	

UST System Closure-In-Place or Change-In-Service

The exterior of a UST undergoing a closure-in-place or change-in-service cannot be visually inspected. Consequently, the presence or size of a release cannot be determined and a more comprehensive assessment is required. ***Closure-in-place of a UST system is not recommended.*** USTs closed by leaving the USTs in the ground or undergoing a change-in-service require a more comprehensive assessment to demonstrate that a release has not occurred. Sampling underneath the tank(s) cannot be accomplished during a closure-in-place or change-in-service, therefore, sampling in the areas where th fills, vent and/or outlet product piping and manways were located at the tank will have to be modified. Refer to Table 2 for the recommended number and location of samples appropriate for site assessment Samples taken between the tanks may have to be taken with manual means.

TABLE 2		
UST STORAGE CAPACITY (GAL) PER TANK PIT	**MINIMUM NUMBER OF SAMPLES TO SUBMIT TO LABORATORY**	**LOCATION**
950 OR LESS	*4*	SEE FIGURE 2
951 TO 7,500	*8*	SEE FIGURE 2
7,501 TO 25,000	*14*	SEE FIGURE 2
25,001 TO 30,000	*16*	SEE FIGURE 2
GREATER THAN 30,000	*APPROVED ON A SITE-SPECIFIC BASIS*	

It is very important that the interior of any closed-in-place or change-in-service UST system be cleared to remove all remaining stored substance. Cleaning of the tank should be in accordance with a nationally recognized standard (refer to Section on UST Cleaning). USTs closed-in-place must be filled with an inert solid material, such as gravel, sand, foam, or concrete. Water is not an inert solid material and cannot be used for in-place closure. USTs must be fully filled with an inert material and permanently modified to prevent the placement of any material into the UST. If a change-in-service is proposed, a detailed discussion on how the UST system will be utilized to store the new substance must be submitted with the Notice of Intent to Permanently Close form.

Sampling at Fill Pipes

Collect Samples from around each fill pipe to document overfills/spills. This is only applicable if the fill pipes were not removed during excavation of the overburden to remove the USTs.

Sampling Product Lines

Samples should be taken at every junction (fitting and joints) and change in piping direction, where stained soil is encountered, or wherever contamination is suspected. In all cases, collect not less than one sample per fifteen (15) linear feet, or portion thereof. Samples should be collected approximately two (2) feet below the bottom of the associated piping in the native soil directly beneath the lines.

Sampling Dispenser Islands

Samples collected beneath dispensers or dispenser islands should be from the area nearest the suspected contamination source. Samples should be collected at ten-foot (10) intervals (i.e., 1 sample for 0 - 10 ft, 2 samples for 0 - 20 ft, etc.) Sample points should be at evenly distributed intervals along the length of the island and should be no deeper than two (2) feet into the native soil directly beneath the dispensers or midline of an island. If there has been an excavation, the samples should be taken from native soil not deeper than two feet below the base of the excavation. Samples should also be taken from beneath coupling joints.

Sampling Around Concrete Pad

If the USTs rest on a concrete pad and the integrity of the concrete pad cannot be confirmed (i.e., no cracks, joints, breaks, etc.) by visual inspection with all soil removed, then soil sampling for this UST system closure should follow the soil sampling protocol required for a UST system being closed-in-place.

Encountering Bedrock

If the UST system is installed in bedrock or bedrock is encountered during excavation or sampling, collect the required soil samples just above the top of bedrock. Samples of material up to the size of pea gravel should be collected and submitted for laboratory analysis. Samples shall be obtained from the pit floor. If contamination is present on top of the bedrock at the soil/bedrock interface, a ground water monitoring well will be required in the bedrock at the location of the contaminated soil, to a dept of twenty (20) feet into the bedrock or to the water table, whichever is encountered first. If ground water is encountered in the bedrock, ground water monitoring wells must be installed deep enough to allow for an adequate screen length. If all the backfill material has been excavated and no material can be sampled, a temporary ground water monitoring well should be installed. The ground water monitoring well should be installed in the area of suspected contamination. If no obvious area of contamination is evident, the ground water monitoring well shall be installed immediately adjacent to tl tank pit at the junction of the piping trench.

Ground Water Samples

A ground water sample is required to be obtained if external leak detection, as found in 40 C.F.R. §280.43 (e) & (f), has not been performed. If soil sampling results demonstrate that a full site investigation will be necessary, a ground water sample is not required to be obtained during the site assessment phase. Ground water sample(s) should be taken within close proximity of the tank from an area hydrologically down-gradient of the UST location. These samples should be obtained from the uppermost interval of the saturated zone. If fill or product piping and dispenser island(s) are located more than thirty (30) feet from the tank(s) area then additional ground water sample(s) will be required

Disposal/Sampling of Contaminated Soil

If soil is being removed during the UST closure procedure, check with the Hazardous Waste Management Division of the Tennessee Department of Environmental and Conservation for further guidance on disposal of contaminated soil. The Hazardous Waste Management Division shall govern the manifest procedures necessary if the contaminated material is to be transported for containment or treatment at a regulated facility. Proper disposal of excavated contaminated soil should occur as soon as possible, but no later than 90 days after the tank closure. Provide copies of the soil disposal manifests with the Closure Report.

UST CLEANING AND DISPOSAL

UST CLEANING

Tank product residuals may accumulate in the bottom of the tank, particularly if it has been in use for a long period of time. Any substances used to clean the tanks, if mixed with the sludge, may be classifie as a hazardous waste. These sludges and hazardous wastes should only be handled by qualified personnel, trained and authorized to do this work. Any hazardous wastes must also be handled and disposed of in accordance with RCRA Subtitle C regulations.

Additional guidance for tank cleaning can be found in publications available from:

National Fire Protection Association (NFPA)
Batterymarch Park
Quincy, Massachusetts 02269
617-770-3500

American Petroleum Institute (API)
1220 L Street, N.W.
Washington, D.C. 20005
202-682-8372

UST DISPOSAL

Before the tank is transported for reduction to scrap, vapors should be removed from the tank to prevent explosive conditions and properly cleaned, in accordance with recommended practices mentioned above. If it is transported off site prior to being reduced to scrap, it must be transported in accordance with Part 393.1 of the Federal Motor Carrier Safety Regulations. Because of the extreme danger involved in handling used tanks, EPA recommends that only qualified and experienced personnel perform this procedure. Every precaution should be taken to prevent a fire or explosion when the tank is handled and/or destroyed. When reducing the tanks to scrap, it is recommended that methods be used which reduce the possibility of fire or explosion hazard as much as possible.

RE-USE OF UNDERGROUND STORAGE TANKS

All tanks to be installed, or reinstalled, are subject to 40 C.F.R. Subtitle I requirements for new UST systems. Therefore, all used tanks must be recertified by the manufacturer, a manufacturer's representative, or a Professional Engineer as meeting new tank requirements ***before*** the tank can be re-used. API Publication 1604, section 6.1, as reference in 40 C.F.R. part 280, states that tanks which previously contained petroleum must not be used for storage of food or liquids intended for animal or human consumption.

CLOSURE REPORT

When analytical results indicate that there are no detectable levels of contamination, i.e., a release has not occurred, or that detectable levels of contaminants were present in the soil (not excavated soil) or ground water, but the results were below the screening levels indicated in either the EPA Region 3 or Region 9 soil screening documents [*http://www.epa.gov/reg3hwmd/risk/riskmenu.htm*] or [*http://www.epa.gov/region09/waste/sfund/prg/intro.htm*]and/or EPA Primary Drinking Water Standards (MCLs) [*http://www.epa.gov/safewater/mcl.html*], a Closure Report (as outlined in Appendix B) must be prepared and forwarded to EPA within forty-five (45) days after UST closure. This brief report must address all pertinent information and attachments, as outlined in the attached Closure Report Form. This report must be retained by the tank owner/operator for at least three (3) years after UST closure.

If analytical results indicate that soil and/or ground water exceed screening levels in either the EPA Region 3 or Region 9 soil screening documents [*http://www.epa.gov/reg3hwmd/risk/riskmenu.htm*] or [*http://www.epa.gov/region09/waste/sfund/prg/intro.htm*] and/or EPA Primary Drinking Water Standards (MCLs) [*http://www.epa.gov/safewater/mcl.html*], a Closure Report (as outlined in Appendix B) and a *proposed scope of work to delineate the extent and level of contamination* must be submitted to EPA withing 45 days of the UST closure. Refer to 40 C.F.R. Subpart F for additional guidance concerning site investigation of a release [*http://www.epa.gov/swerust1/fedlaws/cfr.htm#40cfr280*].

RELEASE NOTIFICATION

EPA defines a release as ***any*** spilling, leaking, emitting, discharging, escaping, leaching, or disposing from a UST system into ground water, surface water or subsurface soils. If contamination is detected in soil or ground water samples or if a release is detected through other means, you **must notify** EPA via telephone at 404-562-9466 by the next business day explaining what has been found and what steps were taken to eliminate any hazardous conditions and prevent the spread of contamination. This notification must be made whenever free product is encountered and/or analytical results indicate that contamination is present in the soil and/or ground water.

FIGURES

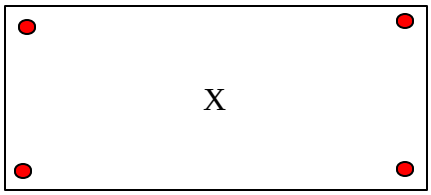
Sample Locations for UST Removal or Closure-in-Place

FIGURE 1

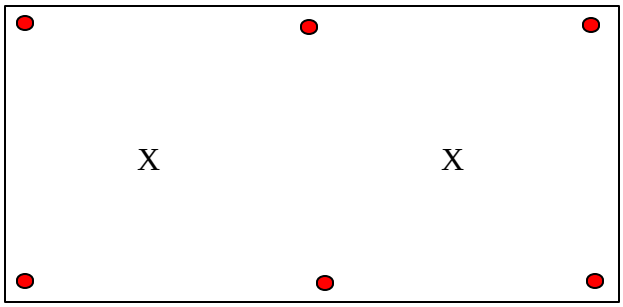
SAMPLE LOCATIONS FOR UST REMOVAL

950 gal. or less

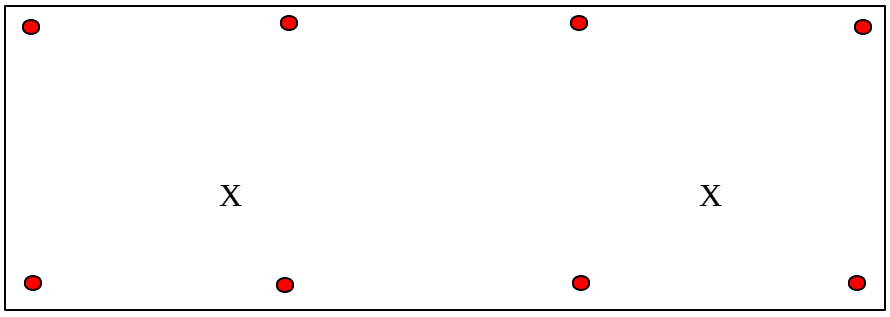
951 to 7,500 gal.



7,500 to 25, 000 gal.



25, 001 to 30,000 gal.

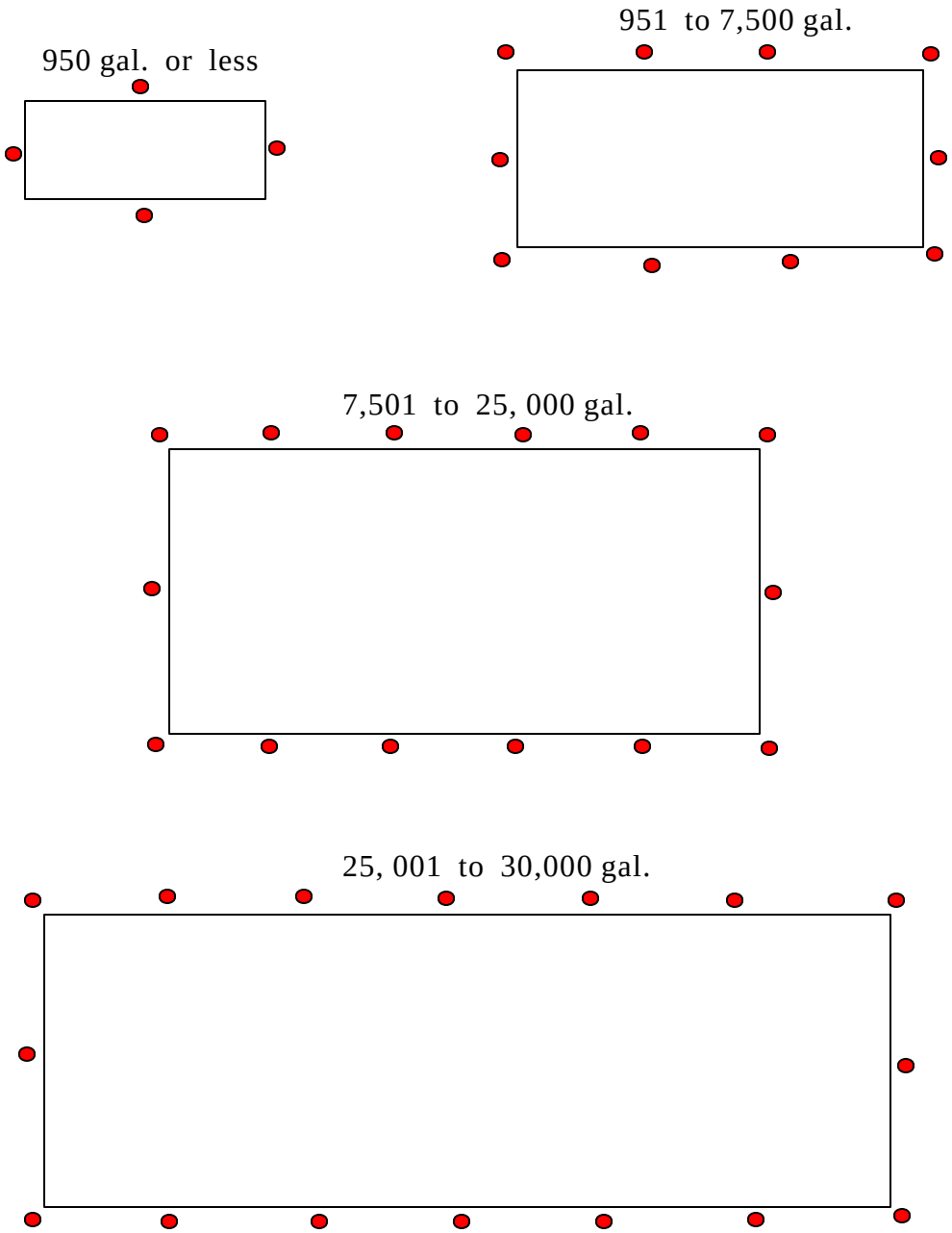


● Sampling points are located as near to tanks as possible.
X Sampling points under fill/pump ports.

Not to Scale

FIGURE 2

Sample Location for UST Closed-in-Place or Change-in-Service



● Sampling points are located as near to tanks as possible.

Not to Scale

APPENDIX A.

Notice of Intent to Permanently Close
Hazardous Substance Underground Storage Tank System(s)
in
Tennessee

Notice of Intent to Permanently Close
Hazardous Substance Underground Storage Tank System(s) in Tennessee

Return Completed Form To

Environmental Protection Agency
Underground Storage Tank Section
Sam Nunn Federal Center
61 Forsyth Street
Atlanta, Georgia 30303

Tel. No. 404-562-9277, fax 404-562-9439
URL: epa.gov/region4/ust

Facility I.D. No. _____

Scheduled Closure Date _____

Date EPA Contacted _____

Complete and return this form thirty (30) days prior to permanently closing the tank system.
Contact EPA Region 4 UST Section at 404-562-9466 to arrange/schedule a closure date.

I. OWNERSHIP OF TANKS

Owner Name _____
Corporation, individual, Public Agency, or Other Entity

Address _____

_____

City _____ County _____

State _____ Zip Code _____

Telephone Number: (_____)_____

II. LOCATION OF TANKS

Facility Name _____
Or Company

Address _____

_____

City _____ County _____

State _____ Zip Code _____

Telephone Number: (_____)_____

III. OWNER'S CONTACT PERSONNEL

Name _____ Title _____ Tel. No. _____

IV. UNDERGROUND STORAGE TANK SYSTEM CLOSURE INFORMATION

Tank I.D.					
Tank Capacity					
Substances stored throughout history of the tank (CERCLA name and CAS Number)					

V. TYPE OF CLOSURE

Removal Closed in Place Change-in-Service	G G G	G G G	G G G	G G G	G G G
New Contents Stored	_____	_____	_____	_____	_____

VI. CONTRACTOR INFORMATION

Contractor/Consultant's Name Performing Closure _____
Address _____ State _____ Zip Code _____
Contact Person _____ PE/PG Lic. No._____ Tel. No. _____

VII. OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE

I certify that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, complete and and correct to the best of my belief and knowledge. I understand that I can be held responsible for environmental damage resulting from the improper disposal of USTs. Read note in Attachment B to this form before signing.

Print Name_____ Official Title _____

Signature _____ Date Signed _____

ATTACHMENT A. - SITE MAP

A scaled site map shall be provided giving the location of buildings, underground storage tanks, associated piping, dispenser island, sampling points and any nearby underground utilities. A permanent fixed point must be identified and a distance referenced to the UST system. ***The Notice of Intent to Permanently Close Hazardous Substance Underground Storage Tank System(s) application will not be processed without a site map***.

ATTACHMENT B.

NOTE TO OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE

As the owner or Owner's authorized representative, you must make sure that the underground storage tank(s) (USTs) are disposed of properly. When choosing a closure contractor, ask where the tank(s) v taken for disposal. Usually USTs are cleaned are cut up for scrap metal. This is dangerous work and r be performed by a qualified company. Tanks disposed of illegally in fields or other dump sites can lea products and sludge into the environment. If your USTs are disposed of improperly, you could be hel responsible for the cleanup of any environmental damage which occurs.

GENERAL INSTRUCTION FOR TANK REMOVAL

1. Contact EPA Region 4 at 404-562-9466 to arrange/schedule a closure date,
2. Contact local Fire Marshall and State Environmental Agency,
3. Plan the entire closure event,
4. Submit a Notice of Intent to Permanently Close Hazardous Substance Underground Storage Ta System(s) in Tennessee to EPA,
5. Provide a scaled map which facilities, piping, tanks, and soil and ground water sampling locatic
6. Conduct Site Soil and Ground Water Assessment,
7. Submit a closure report in the format given in EPA Region 4's Closure Assessment Guidelines Hazardous Substance Underground Storage Tanks in Tennessee, July 2000,
8. Refer to API Publication 2015 Cleaning Petroleum Storage Tanks and 1604 Removal and Disp of Used Underground Petroleum Storage Tanks,
9. If a release from the USTs has occurred, notify EPA with 24 hours at 404-562-9466,
10. Contact local/state regulatory agency concerning disposal of contaminate soil/material,
11. Keep closure records for 3 years.

APPENDIX B.

Hazardous Substance Underground Storage Tank
Closure Report

HAZARDOUS SUBSTANCE
UNDERGROUND STORAGE TANK CLOSURE REPORT

The Owner of the hazardous substance underground storage tank (UST) system shall submit the Closure report within forty five (45) days of collecting samples during the UST system closure assessment. The closure report should contain, at a minimum, the following information. Any other information that is pertinent to the site should be included.

I. General Information

A. Ownership of UST(s)
1. Name of UST owner.
2. Owner address and telephone number.

B. Operator of UST(s)
1. Name of UST operator.
2. Operator address and telephone number.

C. Facility Information
1. Facility name.
2. Facility ID #.
3. Facility address and telephone number.

D. Contacts
1. Name, address, telephone number, and job title of facility primary contact person.
2. Name, address, telephone number of closure contractor.
3. Name, address, telephone number of primary consultant.
4. Name, address, telephone number, and certification number of laboratory.

E. UST Information

Tank I.D. (Example - 1,						
Tank Capacity						
Date Tank Last Used						
Substances stored throughout history of the tank (CERCLA name and CAS Number)						
Product Piping	Pressure	G	G	G	G	G
	Suction	G	G	G	G	G
Type of Closure						
Removal		G	G	G	G	G
Closed in Place		G	G	G	G	G
Change-in-Service		G	G	G	G	G
New Contents Stored		_____	_____	_____	_____	_____
CAS No.		_____	_____	_____	_____	_____

F. Site History/Characteristics

1. Brief history of the UST facility, including type of business.
2. Describe any past release(s) at this site.
3. Is this facility active or inactive at this time? If the facility is inactive, note the last time the USTs were in operation.
4. Describe surrounding property use (for example, residential, commercial, farming, etc.).
5. Describe general site geology/hydrogeology.
6. Describe any potential receptor(s) (water wells, basements, surface waters, etc.) in the surrounding vicinity of the UST (s).
7. Indicate if area of UST facility was paved.

II. Closure Procedures

1. Describe preparations for closure including the steps taken to notify other authorities, permits obtained and the steps taken to clean and purge the tanks.

2. Note the amount of residual material pumped from the tank(s).

C. Describe the storage, sampling, and disposal of the residual material.

D. Excavation

1. Describe excavation procedures noting the condition of the soil encountered and the dimensions of the excavation in relation to the tanks, piping, and/or pumps.
2. Note the depth of tank burial(s) (from land surface to top of tank).
3. Note volume of soil excavated.
4. Describe soil type(s) encountered.
5. Describe type and source of backfill used.
6. Describe condition of UST system(s) (i.e. pitting, holes, etc.). Include location and extent of any corrosion, piping, or holes that were observed in the piping.
7. Note if the excavation reached the ground water table or bedrock surface.

E. Contaminated Soil

1. Describe how it was determined to what extent to excavate the soil.
2. Describe method of temporary storage, sampling and treatment/disposal of soil.
3. Indicate location of any soil stockpiles on the site map.
4. Discuss if there was a sheen or free product detected in the soils of the excavation or on any excavation or boring water.

III. Site Investigation

A. Provide information on field screening and physical observations, as well as methods used to calibrate field screening instrument(s).

B. Describe soil sampling points and sampling procedures used, including:

1. Location of samples ;
2. Type of samples (from excavation, stockpiled soil, etc.);
3. Sample collection procedures (grab, split spoon, hand auger, etc.);
4. Depth of soil samples (below land surface);
5. Whether samples were taken from side or floor of an excavation;
6. Odor(s) observed during sampling (type, strength);

- Any free product observed;
- Sample identification; and
- Sample analyses.

C. Describe ground water or surface water sampling procedures used, including:

1. Location of samples;
2. Sample collection procedures (grab, bailer, etc.)
3. Sample identification; and
4. Sample analyses.

D. Describe quality control measures, including:

1. Sample handling procedures including sample preservation and transportation;
2. Decontamination procedures used;
3. Time and date samples were collected and date submitted to laboratory;
4. Samples collected for quality control purposes (e.g. duplicates, field blanks, trip blanks, etc.) including methods used to obtain these samples and analytical parameters; and
5. How results of quality control samples may have affected your interpretation of soil, ground water, or surface sample results.

E. Describe investigation results, including:

1. Methods of analyses used (include U.S. EPA method number); and
2. Analytical results for samples; discuss in relation to site specific cleanup level or action level as appropriate.

IV. Conclusions and Recommendations

Include probable source(s) of contamination, further investigation or remediation tasks, or whether "no further action" is required.

V. Signature and Seal of Professional Engineer or Licensed Geologist

Professional Engineer Registration Number.
Licensed Geologist License Number.

VI. Enclosures

A. Figures

1. Area map(s) (can be USGS Topographic Quadrangle) showing;
   - Adjacent Street, roads, highways with names and numbers;
   - Buildings;
   - Surface water bodies;
   - Ground water flow direction (if available);
   - North arrow; and
   - Scale.

2. Site map of UST excavation area drawn to scale, showing;
   - Building;
   - Underground utilities such as sewer lines and other conduits;
   - Orientation of UST(s), pumps, and product lines (current and former);

- Length, diameter and volume of UST(s) (current and former);
- Type of material(s) stored in UST(s) (current and former);
- Sample locations (identified by letter or number);
- Ground water flow direction (if available);
- Final limits of excavation;
- North arrow; and
- Scale.

3. Maps depicting analytical results, to include;
   - Orientation of UST(s), pumps, and product lines;
   - Sample locations, depths and identifications;
   - Analytical results;
   - Final limits of excavation(s).

B. Tables

1. Field screening results.
2. Analysis results (identification, date sample taken, depth, etc.). The results shall be properly identified and correlated with the sampling locations on the site map. If result(s) is below laboratory detection limit (BDL) list detection limit (i.e. <0.5 ug/l).

C. Appendices

Appendix A.
- Copy of the Amended Notification form.
- Copy of Intent to Permanently Close or Change-in-Service Hazardous Substance Underground Storage Tank System(s)
- Certificate of UST(S) and piping disposal.
- Soil, water, sludge disposal manifests
- Complete chain-of-custody records.

Appendix B. Copy of all laboratory analytical records including information specified in the Hazardous Substance Closure Assessment Guidelines.

Appendix C. Geologic logs for borings/excavation(s).

Appendix D. Photographs of Closure Activities (optional, not required); Photographs are often very helpful for evaluating a report.

APPENDIX C.

Notification for Underground Storage Tanks
United States Environmental Protection Agency

United States
Environmental Protection Agency
Washington, DC 20460

Form Approved.
OMB No.2050-0068

Notification for Underground Storage Tanks

State Agency Name and Address:

STATE USE ONLY

ID NUMBER:

DATE RECEIVED:

DATE ENTERED INTO COMPUTER:

DATA ENTRY CLERK INITIALS:

OWNER WAS CONTACTED TO CLARIFY RESPONSES, COMMENTS:

TYPE OF NOTIFICATION

G A. NEW FACILITY G B. AMENDED G C. CLOSURE

_____ Number of tanks at facility

_____ Number of continuation sheets attached

INSTRUCTIONS AND GENERAL INFORMATION

Please type or print in ink. Also, be sure you have signatures in ink for sections VIII and XI. Complete a notification form for each location containing underground storage tanks. If more than 5 tanks are owned at this location, you may photocopy pages 3 through 5 and use them for additional tanks.

The primary purpose of this notification program is to locate and evaluate underground storage tank systems (USTs) that store or have stored petroleum or hazardous substances. The information you provide will be based on reasonably available records, or in the absence of such records, your knowledge or recollection.

Federal law requires UST owners to use this notification form for all USTs storing regulated substances that are brought into use after May 8, 1986, or USTs in the ground as of May 8, 1986 that have stored regulated substances at any time since January 1, 1974. The information requested is required by Section 9002 of the Resource Conservation and Recovery Act (RCRA), as amended.

Who Must Notify? Section 9002 of RCRA, as amended, requires owners of USTs that store regulated substances (unless exempted) to notify designated State or local agencies of the existence of their USTs. "Owner" is defined as:

- In the case of an UST in use on November 8, 1984, or brought into use after that date, any person who owns an UST used for storage, use, or dispensing of regulated substances; or
- In the case of an UST in use before November 8, 1984, but no longer in use on that date, any person who owned the UST immediately before its discontinuation.

Also, if the State so requires, any facility that has made any changes to facility information or UST system status, must submit a notification form (only amended information needs to be included).

What USTs Are Included? An UST system is defined as any one or combination of tanks that (1) is used to contain an accumulation of regulated substances, and (2) whose volume (including connected underground piping) is 10% or more beneath the ground. Regulated USTs store petroleum or hazardous substances (see the following "What Substances Are Covered").

What Tanks Are Excluded From Notification?

C Tanks removed from the ground before May 8, 1986;

- Farm or residential tanks of 1,100 gallons or less capacity storing motor fuel for noncommercial purposes;
- Tanks storing heating oil for use on the premises where stored;
- Septic tanks;
- Pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;
- Surface impoundments, pits, ponds, or lagoons;
- Storm water or waste water collection systems;
- Flow-through process tanks;
- Liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;
- Tanks on or above the floor of underground areas, such as basements or tunnels;
- Tanks with a capacity of 110 gallons or less.

What Substances Are Covered? The notification requirements apply to USTs containing petroleum or certain hazardous substances. Petroleum includes gasoline, used oil, diesel fuel, crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute). Hazardous substances are those found in Section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), with the exception of those substances regulated as hazardous waste under Subtitle C of RCRA.

Where To Notify? Send completed forms to:

EPA-Region 4
Underground Storage Tank Section
Sam Nunn Atlanta Federal Center
61 Forsyth Street
Atlanta, Georgia 30303-8960

When To Notify? 1. Owners of USTs in use or that have been taken out of operation after January 1, 1974, but still in the ground, must notify by May 8, 1986. 2. Owners who bring USTs into use after May 8, 1986, must notify within 30 days of bringing the UST into use. 3. If the State requires notification of any amendments to facility, send information to State agency immediately.

Penalties: Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed $11,000 for each tank for which notification is not given or for which false information is given.

I. OWNERSHIP OF UST(s)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)

Street Address

County

City | State | Zip Code

II. LOCATION OF UST(s)

If required by State, give the geographic location of USTs by degrees, minutes, and seconds.
Example: Latitude 42° 36' 12" N, Longitude 85° 24' 17" W

Latitude _____ **Longitude** _____

Facility Name or Company Site Identifier, as applicable

Q If address is the same as in Section I, check the box and proceed to section III.
If address is different, enter address below:

Street Address

County

Phone Number (Include Area Code)	City	State	Zip Code

United States
Environmental Protection Agency
Washington, DC 20460

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Notification for Underground Storage Tanks

III. TYPE OF OWNER

G Federal Government
G State Government G Commercial
G Local Government G Private

IV. INDIAN COUNTRY

USTs are located on land within an Indian Reservation or on trust lands outside reservation boundaries. G

USTs are owned by a Native American nation or tribe. G

Tribe or Nation where USTs are located:

V. TYPE OF FACILITY

G Gas Station
G Petroleum Distributor
G Air Taxi (Airline)
G Aircraft Owner
G Auto Dealership
G Railroad
G Federal - Non-Military
G Federal - Military
G Industrial
G Contractor
G Trucking/Transport
G Utilities
G Residential
G Farm
G Other (Explain) _____

VI. CONTACT PERSON IN CHARGE OF TANKS

Name:	Job Title:	Address:	Phone Number (Include Area Code):

VII. FINANCIAL RESPONSIBILITY

G I have met the financial responsibility requirements (in accordance with 40 CFR Subpart H) by using the following mechanisms:

Check All that Apply

G Self Insurance
G Commercial Insurance
G Risk Retention Group
G Local Government Financial Test
G Guarantee
G Surety Bond
G Letter of Credit
G Bond Rating Test
G State Funds
G Trust Fund
G Other Method (describe here)
_____

VIII. CERTIFICATION (Read and sign after completing ALL SECTIONS of this notification form)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in Sections I through XI of this notification form and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative (Print)	Signature	Date Signed

Paperwork Reduction Act Notice

EPA estimates public reporting burden for this form to average 30 minutes per response including time for reviewing instructions, gathering and maintaining the data needed and completing and reviewing the form. Send comments regarding this burden estimate to Director, OP, Regulatory Information Division (2137), U.S. Environmental Protection Agency, 401 M Street, Washington D.C. 20460, marked "Attention Desk Officer for EPA." This form amends the previous notification form as printed in 40 CFR Part 280, Appendix I. Previous editions of this notification form may be used while supplies last.

Notification for Underground Storage Tanks

IX. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for all tanks and piping at this location.)

Tank Identification Number		Tank No. ____	Tank No. ____	Tank No. ____	Tank No. ____	Tank No. ____
1. Status of Tank (check only one)	Currently In Use	G	G	G	G	G
	Temporarily Closed	G	G	G	G	G
	Permanently Closed	G	G	G	G	G
2. Date of Installation (month/year)						
3. Estimated Total Capacity (gallons)						
4. Material of Construction (check all that apply)						
	Asphalt Coated or Bare Steel	G	G	G	G	G
	Cathodically Protected Steel	G	G	G	G	G
	Coated and Cathodically Protected Steel	G	G	G	G	G
	Composite (Steel Clad with Fiberglass)	G	G	G	G	G
	Fiberglass Reinforced Plastic	G	G	G	G	G
	Lined Interior	G	G	G	G	G
	Excavation Liner	G	G	G	G	G
	Double Walled	G	G	G	G	G
	Polyethylene Tank Jacket	G	G	G	G	G
	Concrete	G	G	G	G	G
	Unknown					
	If Other, please specify here					
	Check box if tank has ever been repaired	G	G	G	G	G
5. Piping Material (check all that apply)	Bare Steel	G	G	G	G	G
	Galvanized Steel	G	G	G	G	G
	Fiberglass Reinforced Plastic	G	G	G	G	G
	Copper	G	G	G	G	G
	Cathodically Protected	G	G	G	G	G
	Double Walled	G	G	G	G	G
	Secondary Containment	G	G	G	G	G
	Unknown					
	Other, please specify					
6. Piping Type (Check all that apply)	"Safe" Suction (no valve at tank)	G	G	G	G	G
	"U.S." Suction (valve at tank)	G	G	G	G	G
	Pressure	G	G	G	G	G
	Gravity Feed	G	G	G	G	G
	Check box if piping has ever been repaired	G	G	G	G	G

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Environmental Protection Agency
Washington, DC 20460

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Tank Identification Number		Tank No. ____	Tank No. ____	Tank No. ____	Tank No. ____	Tank No. ____
7. Substance Currently Stored (or last stored in the case of closed tanks) (Check all that apply)	Gasoline	G	G	G	G	G
	Diesel	G	G	G	G	G
	Gasohol	G	G	G	G	G
	Kerosene	G	G	G	G	G
	Heating Oil	G	G	G	G	G
	Used Oil	G	G	G	G	G
	If Other, please specify here					
	Hazardous Substance	G	G	G	G	G
	CERCLA name and/or					
	CAS number					
	Mixture of Substances	G	G	G	G	G
	Please specify here					

8. **Release Detection** (check all that apply)	TANK	PIPE	TANK	PIPE	TANK	PIPE	TANK	PIPE	TANK	PIPE
Manual tank gauging	G		G		G		G		G	
Tank tightness testing	G		G		G		G		G	
Inventory Control	G		G		G		G		G	
Automatic tank gauging	G	G	G	G	G	G	G	G	G	G
Vapor monitoring	G	G	G	G	G	G	G	G	G	G
Groundwater monitoring	G	G	G	G	G	G	G	G	G	G
Interstitial monitoring		G		G		G		G		G
Automatic line leak detectors		G		G		G		G		G
Line tightness testing	G	G	G	G	G	G	G	G	G	G
No release detection required (such as some types of suction piping, emergency generator tanks or field constructed tanks)	G		G		G		G		G	
Other method allowed by implementing agency (such as SIR)										
Please specify other method here										

9. Spill and Overfill Protection					
Overfill device installed	G	G	G	G	G
Spill device installed	G	G	G	G	G

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Tank Identification Number	Tank No. ____	Tank No. ____	Tank No. ____	Tank No. ____	Tank No. ____
X. CLOSURE OR CHANGE IN SERVICE					
1. **Closure or Change in Service**					
Estimated date the UST was last used for storing regulated substances (month/day/year)					
Check box if this is a change in service	G	G	G	G	G
2. **Tank Closure**					
Estimated date tank closed (month/day/year)					
(check all that apply below)					
Tank was removed from ground	G	G	G	G	G
Tank was closed in ground	G	G	G	G	G
Tank filled with inert material	G	G	G	G	G
Describe the inert fill material here					
3. **Site Assessment**					
Check box if the site assessment was completed	G	G	G	G	G
Check box if evidence of a leak was detected	G	G	G	G	G
XI. CERTIFICATION OF INSTALLATION (COMPLETE FOR UST SYSTEMS INSTALLED AFTER DECEMBER 22, 1988)					
Installer Of Tank And Piping Must Check All That Apply:					
Installer certified by tank and piping manufacturers	G	G	G	G	G
Installer certified or licensed by the implementing agency	G	G	G	G	G
Installation inspected by a registered engineer	G	G	G	G	G
Installation inspected and approved by implementing agency	G	G	G	G	G
Manufacturer's installation checklists have been completed	G	G	G	G	G
Another method allowed by State agency If so, please specify here	G	G	G	G	G

Signature of UST Installer Certifying Proper Installation of UST System

Name _____ Signature _____ Date _____

Position _____ Company _____

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Previous editions may be used while supplies last